

## C L A I M S

Claims 1-5 (cancelled)

6. (currently amended) A communication system comprising:

a receiver structured to receive a substantially continuous sine wave carrier signal,  
the signal modulated to contain communication data;

a demodulator communicating with the receiver, the demodulator structured to  
demodulate the communication data from the substantially continuous sine wave carrier  
signal; and

a transmitter coupled to the demodulator, the transmitter including an  
electromagnetic pulse generating circuit, with the electromagnetic pulse generating  
circuit structured to transmit a plurality of electromagnetic pulses, with the pulses  
configured to include the communication data, wherein the electromagnetic pulse  
generating circuit comprises:

a control unit;

at least two current sources;

at least two switching elements connected to the current sources, each of the  
switching elements structured to receive a signal from the control unit;

a switch connected to the at least two switching elements, the switch structured to  
receive a signal from the control unit;

a load connected to the switch; and

~~The communication system of claim 5, further comprising:~~ a first set of resistive elements connected to the current sources, and to the switching elements, the resistive elements also connected to a second voltage level.

7. (currently amended) A communication system comprising:

a receiver structured to receive a substantially continuous sine wave carrier signal,  
the signal modulated to contain communication data;

a demodulator communicating with the receiver, the demodulator structured to  
demodulate the communication data from the substantially continuous sine wave carrier  
signal; and

a transmitter coupled to the demodulator, the transmitter including an  
electromagnetic pulse generating circuit, with the electromagnetic pulse generating  
circuit structured to transmit a plurality of electromagnetic pulses, with the pulses  
configured to include the communication data, wherein the electromagnetic pulse  
generating circuit comprises:

a control unit;

at least two current sources;

at least two switching elements connected to the current sources, each of the  
switching elements structured to receive a signal from the control unit;

a switch connected to the at least two switching elements, the switch structured to  
receive a signal from the control unit;

a load connected to the switch;

a first set of resistive elements connected to the current sources, and to the switching elements, the first set of resistive elements also connected to a second voltage level; and

~~The communication system of claim 5, further comprising:~~ a second set of resistive elements connected to the switching elements, and to the switch, the second set of resistive elements also connected to the second voltage level.

Claims 8-47 (cancelled)